

IAP9 Rec'd PCT/PTO 31 JAN 2006

1 / 4 2

SEQUENCE LISTING

<110> GENEFIELD, INC.

<120> METHOD OF SCREENING USEFUL PROTEIN

<130> BVC-A0301Y1P

<150> JP 2003-205139

<151> 2003-07-31

<150> JP 2003-416228

<151> 2003-12-15

<160> 56

<170> PatentIn version 3.1

<210> 1

<211> 55

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized sequence

<220>

<221> modified_base

<222> (20)..(20)

<223> Biotin is bonded to the 20th cytosine.

<400> 1

cccgggtgcag ctgtttcatc cggaacacgc tgcacccccccc gccgccccccc gtcct

55

<210> 2

<211> 36

<212> PRT

<213> Artificial

<220>

<223> an artificially synthesized sequence

<220>

<221> MISC_FEATURE

<222> (1)..(4)

<223> "Xaa" = any amino acids.

<220>

<221> MISC_FEATURE

<222> (6)..(8)

<223> "Xaa" = any amino acids.

<220>

<221> MISC_FEATURE

<222> (10).. (12)

<223> "Xaa" = any amino acids.

<220>

<221> MISC_FEATURE

<222> (14).. (17)

<223> "Xaa" = any amino acids.

<220>

<221> MISC_FEATURE

<222> (19).. (22)

<223> "Xaa" = any amino acids.

<220>

<221> MISC_FEATURE

<222> (24).. (31)

<223> "Xaa" = any amino acids.

<220>

<221> MISC_FEATURE

<222> (33).. (36)

<223> "Xaa" = any amino acids.

4 / 4 2

<400> 2

Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Cys Xaa Xaa Xaa Cys Xaa Xaa Xaa

1

5

10

15

Xaa Cys Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys

20

25

30

Xaa Xaa Xaa Xaa

35

<210> 3

<211> 36

<212> PRT

<213> Artificial

<220>

<223> an artificially synthesized sequence

<220>

<221> MISC_FEATURE

<222> (1).. (2)

<223> "Xaa" = any amino acids.

<220>

<221> MISC_FEATURE

<222> (4).. (12)

<223> "Xaa" = any amino acids.

<220>

<221> MISC_FEATURE

<222> (14).. (15)

<223> "Xaa" = any amino acids.

<220>

<221> MISC_FEATURE

<222> (17).. (21)

<223> "Xaa" = any amino acids.

<220>

<221> MISC_FEATURE

<222> (23).. (27)

<223> "Xaa" = any amino acids.

<220>

<221> MISC_FEATURE

<222> (29).. (31)

<223> "Xaa" = any amino acids.

<220>

<221> MISC_FEATURE

<222> (33).. (36)

<223> "Xaa" = any amino acids.

<400> 3

Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Cys

1

5

10

15

Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Cys

20

25

30

Xaa Xaa Xaa Xaa

35

<210> 4

<211> 215

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized sequence

<220>

<221> misc_feature

<222> (71)..(82)

<223> "n" = a, t, g, or c.

<220>

<221> misc_feature

<222> (86)..(109)

<223> "n" = a, t, g, or c.

<220>

<221> misc_feature

<222> (113)..(124)

<223> "n" = a, t, g, or c.

<220>

<221> misc_feature

<222> (128)..(139)

<223> "n" = a, t, g, or c.

<220>

<221> misc_feature

<222> (143)..(151)

<223> "n" = a, t, g, or c.

<220>

<221> misc_feature

<222> (155)..(163)

<223> "n" = a, t, g, or c.

<220>

<221> misc_feature

<222> (167)..(178)

<223> "n" = a, t, g, or c.

<400> 4

tttccccgcc ccccgctcctg cttccgccgt gatgatgatg atgatggcct ccgcttggag 60

ggccggaggg nnnnnnnnnn nnacannnnn nnnnnnnnnn nnnnnnnnna cannnnnnnn 120

nnnnacannn nnnnnnnnna cannnnnnnn nacannnnnn nnnacannnn nnnnnnnnca 180

tggtggcttg tagttgtaga atgtaaaatg taatg 215

<210> 5

<211> 215

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized sequence

<220>

<221> misc_feature

<222> (38)..(43)

<223> "n" = a, t, g, or c.

<220>

<221> misc_feature

<222> (47).. (73)

<223> "n" = a, t, g, or c.

<220>

<221> misc_feature

<222> (77).. (82)

<223> "n" = a, t, g, or c.

<220>

<221> misc_feature

<222> (86).. (100)

<223> "n" = a, t, g, or c.

<220>

<221> misc_feature

<222> (104).. (118)

<223> "n" = a, t, g, or c.

<220>

<221> misc_feature

<222> (122).. (130)

<223> "n" = a, t, g, or c.

<220>

<221> misc_feature

<222> (134)..(145)

<223> "n" = a, t, g, or c.

<400> 5

catggtggct tgtagttgta gaatgtaaaa tgtaatgnnn nnntgtnnnn nnnnnnnnnn 60

nnnnnnnnnn nnntgtnnnn nntgtnnnnn nnnnnnnnnn tgtnnnnnnn nnnnnnnntg 120

tnnnnnnnnn tgtnnnnnnn nnnnnccctc cgccctcca agcggaggcc atcatcatca 180

tcatcacggc ggaagcagga cggggggcgg ggaaa 215

<210> 6

<211> 37

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 6

cattacattt tacattctac aactacaagc caccatg 37

<210> 7

<211> 19

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 7

tttccccgcc ccccgctct

19

<210> 8

<211> 117

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 8

gatcccgcca aattaatacg actcactata ggggaagtat ttttacaaca attaccaaca

60

acaacaacaa acaacaacaa cattacattt tacattctac aactacaagc caccatg

117

<210> 9

<211> 19

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 9

aggacggggg gcggggaaa

19

<210> 10

<211> 40

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 10

caacaacatt acatTTTaca ttctacaact acaagccacc

40

<210> 11

<211> 19

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 11

tttccccgcc ccccgctct

19

<210> 12

<211> 117

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized sequence

<400> 12

gatccccgca aattaatacg actcactata ggggaagtat ttttacaaca attaccaaca 60

acaacaacaa acaacaacaa cattacattt tacattctac aactacaagc caccatg 117

<210> 13

<211> 114

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized sequence

<220>

<221> misc_feature

<222> (33).. (89)

<223> "nnn" is repeated 19 times. In the "nnn", 1st n indicates mixture of 13% T, 20% C, 35% A, 32% G, 2nd n indicates mixture of 24% T, 22% C, 30% A, 24% G, and 3rd n indicates mixture of 37% T, 37% C, 0% A, 26% G

<400> 13

acattctaca actacaagcc accatgggat gtnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 60

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnt gtgagggggg aggcagccat catc 114

<210> 14

<211> 61

<212> DNA

<213> Artificial

1 5 / 4 2

<220>

<223> an artificially synthesized sequence

<400> 14

tttccccgcc gccccccgtc ctgcttccgc cgtgatgatg atgatgatgg ctgcctcccc 60

c 61

<210> 15

<211> 247

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized sequence

<220>

<221> misc_feature

<222> (124)..(180)

<223> "nnn" is repeated 19 times. In the "nnn", 1st n indicates mixture of 13% T, 20% C, 35% A, 32% G, 2nd n indicates mixture of 24% T, 22% C, 30% A, 24% G, and 3rd n indicates mixture of 37% T, 37% C, 0% A, 26% G

<400> 15

gatccccgca aattaatacg actcactata ggggaagtat ttttacaaca attaccaaca 60

acaacaacaa acaacaacaa cattacattt tacattctac aactacaagc caccatggga 120

tgtnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 180

tgtgaggggg gaggcagcca tcatcatcat catcacggcg gaagcaggac ggggggcggc 240

ggggaaa 247

<210> 16

<211> 40

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 16

caacaacatt acattttaca ttctacaact acaagccacc 40

<210> 17

<211> 39

<212> DNA

1 7 / 4 2

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 17

tttccccgcc gcccccgcgc ctgcttccgc cgtgatgat

39

<210> 18

<211> 22

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 18

Met Gly Cys Ser Cys Gly Met Leu Cys Thr His Val Arg His His Ser

1

5

10

15

Arg Phe His Met Val His

20

<210> 19

1 8 / 4 2

<211> 22

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 19

Met Gly Cys Ser Asp Ser Ala Arg Val Pro Leu Gly Met Ala Val Cys

1 5 10 15

Val Thr Ser Ser Ala Ile

20

<210> 20

<211> 22

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 20

Met Gly Cys Ser Cys Gly Met Leu Cys Thr His Val Arg His His Ser

1 5 10 15

1 9 / 4 2

Arg Phe His Met Val His

20

<210> 21

<211> 19

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 21

Met Arg Ile Ser Arg Pro Val Met Asn Glu Gly Arg Trp Leu Ile Tyr

1

5

10

15

Leu Leu Ser

<210> 22

<211> 22

<212> PRT

<213> Artificial

20 / 42

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 22

Met Gly Arg Ser Val His Phe Gly Leu Gln Cys Gly Asn Met Gly His

1 5 10 15

Val His Asp Ser Ile His

20

<210> 23

<211> 22

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 23

Met Gly Cys Ser Cys Gly Met Leu Cys Thr His Val Arg His His Ser

1 5 10 15

Arg Phe His Met Ala Asn

20

2 1 / 4 2

<210> 24

<211> 22

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 24

Met Gly Cys Ser Cys Gly Met Leu Cys Thr His Val Arg His His Ser

1

5

10

15

His Phe His Met Val His

20

<210> 25

<211> 22

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 25

2 2 / 4 2

Met Gly Cys Thr Leu Val Gly Ser Gly Asn Pro Asn Val Gly Ser Val

1

5

10

15

Ile His Leu His Cys His

20

<210> 26

<211> 22

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 26

Met Gly Cys Ser Cys Gly Met Leu Cys Thr His Val Arg His His Ser

1

5

10

15

Arg Phe His Met Val His

20

<210> 27

<211> 22

<212> PRT

2 3 / 4 2

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 27

Met Gly Cys Ser Cys Gly Met Leu Cys Thr His Val Arg His His Ser

1

5

10

15

Arg Phe His Met Val His

20

<210> 28

<211> 22

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 28

Met Gly Cys Ser Cys Gly Met Leu Cys Thr His Val Arg His His Ser

1

5

10

15

Arg Phe His Met Val His

2 4 / 4 2

20

<210> 29

<211> 22

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<220>

<221> MISC_FEATURE

<222> (19).. (19)

<223> "Xaa" = The site corresponding to termination codon.

<400> 29

Met Gly Cys Cys Asn Ser Thr Gly Val Val Val Gly Val Leu Phe Gly

1

5

10

15

Pro Asp Xaa Met His Cys

20

<210> 30

<211> 22

2 5 / 4 2

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 30

Met Gly Cys Ser Val His Phe Gly Leu Gln Cys Gly Asn Met Gly His

1 5 10 15

Val His Asp Ser Ile His

20

<210> 31

<211> 22

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 31

Met Gly Cys Ser Ser Met Ser Ser Val His Met Cys Phe Cys Pro Ala

1 5 10 15

2 6 / 4 2

Gly Arg Asp Val Ile Ser

20

<210> 32

<211> 22

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 32

Met Gly Cys Ile Thr Phe Ile Gly Glu Cys Gly Arg Phe Val Asp Gly

1

5

10

15

Gly Cys Phe Asn Asn Asn

20

<210> 33

<211> 22

<212> PRT

<213> Artificial

<220>

2 7 / 4 2

<223> A peptide sequence encoded by selected DNA.

<400> 33

Met Gly Cys Arg Ala Arg Gly Val Gly Val Asp Tyr Ile Ser Arg Arg

1

5

10

15

Asp His Lys Ser His His

20

<210> 34

<211> 22

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 34

Met Gly Cys Asp Leu Gln Arg Val Gly Cys Ala Val Ser Ala Thr Val

1

5

10

15

Glu Thr Cys Gly Asn Ser

20

28 / 42

<210> 35

<211> 22

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 35

Met Gly Cys Ser Cys Gly Met Leu Cys Thr His Val Arg His His Ser

1

5

10

15

Arg Phe His Met Val His

20

<210> 36

<211> 22

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 36

Met Gly Cys Ser Val His Phe Gly Leu Gln Cys Gly Asn Met Gly His

29 / 42

1

5

10

15

Val His Asp Ser Ile His

20

<210> 37

<211> 22

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 37

Met Gly Cys Thr Leu Val Gly Ser Gly Asn Pro Asn Val Gly Ser Val

1

5

10

15

Ile His Leu His Cys His

20

<210> 38

<211> 22

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 38

Met Gly Cys Ser Val His Phe Gly Leu Gln Cys Gly Asn Met Gly His

1 5 10 15

Val His Asp Ser Ile His

20

<210> 39

<211> 22

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 39

Met Gly Cys Ser Cys Gly Met Leu Cys Thr His Val Arg His His Ser

1 5 10 15

Arg Phe His Met Val His

20

3 1 / 4 2

<210> 40

<211> 22

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 40

Met Gly Cys Ser Cys Gly Met Leu Arg Thr His Val Arg His His Ser

1

5

10

15

Arg Phe His Met Val His

20

<210> 41

<211> 22

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

3 2 / 4 2

<400> 41

Met Gly Cys Ile Ser Ala Gly Asp Ser Val Cys Val Thr Asp Asn Val

1

5

10

15

Asp Leu Pro Ser Asn Thr

20

<210> 42

<211> 22

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 42

Met Gly Cys Ser Cys Gly Met Leu Cys Thr His Val Arg His His Ser

1

5

10

15

Arg Phe His Met His Arg

20

<210> 43

<211> 19

3 3 / 4 2

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 43

Ser Cys Gly Met Leu Cys Thr His Val Arg His His Ser Arg Phe His

1

5

10

15

Met Val His

<210> 44

<211> 19

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 44

Ser Val His Phe Gly Leu Gln Cys Gly Asn Met Gly His Val His Asp

1

5

10

15

3 4 / 4 2

Ser Ile His

<210> 45

<211> 19

<212> PRT

<213> Artificial

<220>

<223> A peptide sequence encoded by selected DNA.

<400> 45

Thr Leu Val Gly Ser Gly Asn Pro Asn Val Gly Ser Val Ile His Leu

1

5

10

15

His Cys His

<210> 46

<211> 8

<212> PRT

<213> Artificial

<220>

3 5 / 4 2

<223> an artificially synthesized peptide linker sequence.

<400> 46

Gly Gly Gly Ser Gly Gly Gly Ser

1

5

<210> 47

<211> 31

<212> PRT

<213> Artificial

<220>

<223> an artificially synthesized peptide sequence.

<220>

<221> MISC_FEATURE

<222> (31).. (31)

<223> "Xaa" indicates Glutathione S-Transferase.

<400> 47

Met Gly Cys Ser Cys Gly Met Leu Cys Thr His Val Arg His His Ser

1

5

10

15

Arg Phe His Met Val His Gly Gly Gly Ser Gly Gly Gly Ser Xaa

20

25

30

3 6 / 4 2

<210> 48

<211> 31

<212> PRT

<213> Artificial

<220>

<223> an artificially synthesized peptide sequence.

<220>

<221> MISC_FEATURE

<222> (31)..(31)

<223> "Xaa" indicates His-tag.

<400> 48

Met Gly Cys Ser Cys Gly Met Leu Cys Thr His Val Arg His His Ser

1

5

10

15

Arg Phe His Met Val His Gly Gly Gly Ser Gly Gly Gly Ser Xaa

20

25

30

<210> 49

<211> 105

<212> DNA

3 7 / 4 2

<213> Artificial

<220>

<223> an artificially synthesized sequence.

<400> 49

gggggatccg gttgctcatg tggcatgcta tgcacacatg ttcggcatca ttcacgattc 60

catatgggtgc acggtggtgg atctggtgga gggctctcgaa ttcta 105

<210> 50

<211> 105

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized sequence.

<400> 50

tagaattcga gaccctccac cagatccacc accgtgcacc atatggaatc gtgaatgatg 60

ccgaacatgt gtgcatagca tgccacatga gcaaccggat ccccc 105

<210> 51

<211> 106

<212> DNA

3 8 / 4 2

<213> Artificial

<220>

<223> an artificially synthesized sequence.

<400> 51

actggatccg gttgctcatg tggcatgcta tgcacacatg ttcggcatca ttcacgattc 60

catatgggtgc acggtggtgg atctggtgga gggctctcaag cttaat 106

<210> 52

<211> 106

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized sequence.

<400> 52

attaagcttg agaccctcca ccagatccac caccgtgcac catatggaat cgtgaatgat 60

gccgaacatg tgtgcatagc atgccacatg agcaaccgga tccagt 106

<210> 53

<211> 22

<212> PRT

3 9 / 4 2

<213> Artificial

<220>

<223> an artificially synthesized peptide sequence.

<400> 53

Met Gly Cys Ser Cys Gly Met Leu Cys Thr His Val Arg His His Ser

1

5

10

15

Arg Phe His Met Val His

20

<210> 54

<211> 22

<212> PRT

<213> Artificial

<220>

<223> an artificially synthesized peptide sequence.

<220>

<221> MISC_FEATURE

<222> (3).. (3)

<223> "Cys" indicates the cysteine that binds to 9th amino acid "Cys" by
S-S bond.

4 0 / 4 2

<220>

<221> MISC_FEATURE

<222> (9).. (9)

<223> "Cys" indicates the cysteine that binds to 3rd amino acid "Cys" by
S-S bond.

<400> 54

Met Gly Cys Ser Cys Gly Met Leu Cys Thr His Val Arg His His Ser

1

5

10

15

Arg Phe His Met Val His

20

<210> 55

<211> 22

<212> PRT

<213> Artificial

<220>

<223> an artificially synthesized peptide sequence.

<220>

<221> MISC_FEATURE

<222> (3).. (3)

4 1 / 4 2

<223> "Cys" indicates the cysteine that binds to 5th amino acid "Cys" by S-S bond.

<220>

<221> MISC_FEATURE

<222> (5).. (5)

<223> "Cys" indicates the cysteine that binds to 3rd amino acid "Cys" by S-S bond.

<400> 55

Met Gly Cys Ser Cys Gly Met Leu Cys Thr His Val Arg His His Ser

1

5

10

15

Arg Phe His Met Val His

20

<210> 56

<211> 22

<212> PRT

<213> Artificial

<220>

<223> an artificially synthesized peptide sequence.

<220>

4 2 / 4 2

<221> MISC_FEATURE

<222> (5).. (5)

<223> "Cys" indicates the cysteine that binds to 9th amino acid "Cys" by S-S bond.

<220>

<221> MISC_FEATURE

<222> (9).. (9)

<223> "Cys" indicates the cysteine that binds to 5th amino acid "Cys" by S-S bond.

<400> 56

Met Gly Cys Ser Cys Gly Met Leu Cys Thr His Val Arg His His Ser

1

5

10

15

Arg Phe His Met Val His

20